



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,905	01/31/2007	Matthew Gibson Field	7101P005	4593
<div>7590 04/28/2009 Blakely Sokoloff Taylor & Zafman 7th Floor 12400 Wilshire Boulevard Los Angeles, CA 90025</div>				
EXAMINER				
MAWARI, REDHWAN K				
ART UNIT		PAPER NUMBER		
3663				
MAIL DATE		DELIVERY MODE		
04/28/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/550,905

Applicant(s)

FIELD ET AL.

Examiner

REDHWAN MAWARI

Art Unit

3663

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-16 and 43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-16 and 43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Applicant's election with traverse of invention Group IA species A2 in the reply filed on 02/26/2009 is acknowledged. The traversal is on the ground(s) that the cited reference on the international search report is neither anticipated nor obvious over the claimed invention. This is not found persuasive because as stated in the previous office action that there is no technical feature. According to the international report a symbol "y" stands for obviousness and therefore, therefore the restriction/election requirement is still proper and make Final.

Claims 5, and 17-42 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 02/26/2009.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "such as" is vague and indefinite. In regards to

claims 2 and 4 the phrase "allowance is made for" is unclear as to which part is performing the allowance".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6, 8-16 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greenwood (5,521,819) in view of Nobutaka (EP 0 925 992 A2) and further in view of Henry (4,680,595).

Consider claim 1, Greenwood discloses a method of controlling a continuously variable ratio transmission of the type comprising a continuously variable ratio unit ("variator") which has rotary input and output members through which the variator is coupled between an engine and a driven component (see at least col., lines 18-23, see at least FIG. 1), the variator receiving a primary control signal and being constructed and arranged such as to exert upon its input and output members torques which, for a given variator drive ratio (see at least col. 8, lines 18-35, and FIG. 1), correspond directly to the control signal, the method comprising:

determining a target engine acceleration (see at least col. 3, lines 22-28), determining settings of the variator's primary control signal and of an engine torque control for providing the required engine acceleration and adjusting the control signal or the engine torque control based on these settings (see at least col.3, lines 29-47, col. 3, lines 49-67); for more clarification the examiner introduces a secondary reference to show engine speed change based on comparison of the actual versus the predicted signals;

Nobutaka teaches predicting a consequent engine speed change ([see at least paragraph 0067]), and correcting the settings of the control signal and engine torque based on a comparison of actual and predicted engine speeds ([see at least paragraph 0067-0069]). Furthermore, the examiner introduces a secondary reference; Greenwood in view of Nobutaka do not explicitly disclose integration of real time to provide the predicted speed values;

Henry teaches predicting the engine speed change using the integration of in real time to provide the predicted speed values (see at least Henry).

Accordingly, it would have been obvious to an ordinary skilled person in the art to incorporate the invention of Henry into the invention of Greenwood in view of Nobutaka for the purpose of enhancing the accuracy of the overall system.

Consider claim 2, Greenwood in view of Nobutaka and Henry disclose wherein allowance is made for engine characteristics in predicting engine speed

change ([see at least Nobutaka, paragraph 0067-0069]). For more clarification see Henry abstract, wherein the predicted engine speeds values are based on integration).

Consider claim 3, Greenwood in view of Nobutaka and Henry disclose calculating the instantaneous torque expected to be created by the engine and using the calculated torque value in predicting the engine speed change (see at least Henry, abstract).

Consider claim 4, Greenwood in view of Nobutaka and Henry disclose wherein allowance is made for transmission characteristics in predicting the engine speed change (see at least Henry, abstract).

Consider claim 6, Greenwood in view of Nobutaka and Henry disclose wherein the construction and arrangement of the variator is such that the sum of the torques exerted by the variator upon its rotary input and output members is always proportional to magnitude of the primary control signal (see at least Greenwood, col. 2, lines 44-50, col. 2, lines 61-67, and col. 3, lines 1-3).

Consider claim 8, Greenwood in view of Nobutaka and Henry disclose wherein the target engine acceleration is calculated based on a difference between current and target engine speeds (see at least Greenwood, col. 3, lines 22-28)

Consider claim 9, Greenwood in view of Nobutaka and Henry disclose wherein target engine speed is set in dependence upon a user input (see at least Greenwood, col. 3, lines 14-28).

Consider claim 10, Greenwood in view of Nobutaka and Henry disclose wherein the user input is interpreted as a demand for a transmission output torque and engine speed (see at least Greenwood, col. 3, lines 14-28).

Consider claim 11, Greenwood in view of Nobutaka and Henry disclose wherein the driver's demands for transmission output torque and engine speed are modified based on engine efficiency considerations (see at least Greenwood, col. 3, lines 14-28).

Consider claim 12, Greenwood in view of Nobutaka and Henry disclose wherein the demanded transmission output torque is converted to a target engine torque using a model of the transmission characteristics (see at least Greenwood, col. 3, lines 14-28, col. 3, lines 49-67 and col. 4, lines 1-5)

Consider claim 13, Greenwood in view of Nobutaka and Henry disclose wherein, subject to limitations of the engine, a torque request to the engine torque controller is set to the sum of the target engine torque and the excess torque T_{rqAcc} required to accelerate power train inertia ([see at least paragraph 0018]).

Consider claim 14, Greenwood in view of Nobutaka and Henry disclose wherein the engine's response to the torque controller is modelled to provide an estimate of instantaneous engine torque (see at least Greenwood, abstract).

Consider claim 15, Greenwood in view of Nobutaka and Henry disclose wherein the excess torque T_{rqAcc} required to accelerate the engine is subtracted from the estimated instantaneous engine torque to obtain a required loading

torque to be applied by the transmission to the engine, the variator control signal being adjusted to provide the required loading torque (see at least Greenwood, col. 4, lines 26-33).

Consider claim 16, Greenwood in view of Nobutaka and Henry disclose wherein instantaneous values of engine torque and of loading torque applied to the engine by the transmission are estimated and used to calculate engine acceleration, the engine acceleration being integrated with respect to time to provide a prediction of engine speed, and closed loop control being applied to engine speed to correct it toward the predicted value (see at least Henry, abstract).

Consider claim 43, Greenwood in view of Nobutaka and Henry disclose wherein the feedback method involves preferentially adjusting the transmission settings to control the engine speed error (see at least Greenwood abstract)

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Greenwood (5,521,819) in view of Nobutaka (EP 0 925 992 A2) and further in view of Henry (4,680,595) and Danz (6,418,366).

Consider claim 7, Greenwood in view of Nobutaka and Henry do not explicitly disclose two hydraulic pressures;

Danz discloses wherein the control signal takes the form of a difference between two hydraulic pressures (see at least col. 3, lines 14-30, wherein the control signal is taking the form of the difference between P1 and P2).

Accordingly, it would have been obvious to an ordinary skilled person in the art to incorporate the invention of Danz into the invention of Green in view of Nobutaka and Henry for the purpose of improving the accuracy of a continuous variable transmission.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Redhwan Mawari whose telephone number is 571 270 1535. The examiner can normally be reached on 7:30 AM - 5PM Mon-Fri Eastern Alt Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

04/20/2009

/R. M./

Examiner, Art Unit 3663

/Tuan C To/
Primary Examiner
April 27, 2009